IN THE CLAIMS

1. (Currently Amended) A system for controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising:

a throttle opening sensor for detecting opening of the throttle valve;

operating condition detecting means for detecting operating conditions of the vehicle;

learning-controlling means for learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state; and

updating inhibiting means for inhibiting next updating of the learned fully-closed value by the learning-controlling means only in valve opening direction after the learned fully-closed value has once been updated in the valve opening direction, until the operating state of the vehicle moves outside the prescribed operating state and then again returns to the prescribed operating state.

2. (Original) A system according to claim 1, wherein the prescribed operating state is a state under which a vehicle operator rides on an accelerator pedal.

3. (Currently Amended) A system according to claim 1, ~~for controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising:~~

~~a throttle opening sensor for detecting opening of the throttle valve;~~

~~operating condition detecting means for detecting operating conditions of the vehicle; and~~

~~learning-controlling means for learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state;~~ wherein the learning-controlling means updates the learned fully-closed value to the detected throttle opening when the detected throttle opening is smaller than the learned fully-closed value, while updating the learned fully-closed value in the valve opening direction by a predetermined amount when the detected throttle opening is greater than the learned fully-closed value.

4. (Canceled)

5. (Currently Amended) A system for controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising:

a throttle opening sensor for detecting opening of the throttle valve;

operating condition detecting means for detecting operating conditions of the vehicle; and

leaning-controlling means for learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state;

wherein the learning-controlling means updates the learned fully-closed value in a valve closing direction by a first prescribed amount when the detected throttle

opening is smaller than the learned fully-closed value, while updating the learned fully-closed value in the valve opening direction by a second prescribed amount which is smaller than the first prescribed amount when the detected throttle opening is greater than the learned fully-closed value.

6. (Original) A system according to claim 5, wherein the prescribed operating state is a state under which a vehicle operator rides on an accelerator pedal.

7. (Canceled)

8. (Original) A system according to claim 5, wherein the second prescribed amount is set to a minimum unit value in controlling the opening of the throttle valve.

9. (Currently Amended) A method of controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising the steps of:

detecting opening of the throttle valve;

detecting operating conditions of the vehicle;

learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state; and

inhibiting next updating of the learned fully-closed value only in valve opening direction after the learned fully-closed value has once been updated in the valve opening direction, until the operating state of the vehicle moves outside the prescribed operating state and then again returns to the prescribed operating state.

10. (Original) A method according to claim 9, wherein the prescribed operating state is a state under which a vehicle operator rides on an accelerator pedal.

11. (Currently Amended) A method according to claim 9, ~~of controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising the steps of:~~

~~detecting opening of the throttle valve;~~

~~detecting operating conditions of the vehicle; and~~

~~learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state;~~ wherein the step of learning-controlling updates the learned fully-closed value to the detected throttle opening when the detected throttle opening is smaller than the learned fully-closed value, while updating the learned fully-closed value in the valve opening direction by a predetermined amount when the detected throttle opening is greater than the learned fully-closed value.

12. (Canceled)

13. (Currently Amended) A method of controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising the steps of:

detecting opening of the throttle valve;

detecting operating conditions of the vehicle; and

learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state;

wherein the step of learning-controlling updates the learned fully-closed value in a valve closing direction by a first prescribed amount when the detected throttle opening is smaller than the learned fully-closed value, while updating the learned fully-closed value in the valve opening direction by a second prescribed amount which is smaller then the first prescribed amount when the detected throttle opening is greater than the learned fully closed value.

14. (Original) A method according to claim 13, wherein the prescribed operating state is a state under which a vehicle operator rides on an accelerator pedal.

15. (Canceled)

16. (Original) A method according to claim 13, wherein the second prescribed amount is set to a minimum unit value in controlling the opening of the throttle valve.

17. (Currently Amended) A computer program embodied on a computer readable medium for controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising the steps of:

detecting opening of the throttle valve;

detecting operating conditions of the vehicle;

learning-controlling a fully closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state; and

inhibiting next updating of the learned fully-closed value only in valve opening direction after the learned fully-closed value has once been updated in the valve opening direction, until the operating state of the vehicle moves outside the prescribed operating state and then again returns to the prescribed operating state.

18. (Currently Amended) A computer program according to claim 17, ~~embodied on a computer-readable medium for controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising the steps of:~~

~~detecting opening of the throttle valve;~~

~~detecting operating conditions of the vehicle; and~~

~~learning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state;~~ wherein the step of learning-controlling updates the learned fully-closed value to the detected throttle opening when the detected throttle opening is smaller than the learned fully-closed value, while updating the learned fully-closed value in the valve opening direction by a predetermined amount when the detected throttle opening is greater than the learned fully-closed value.

19. (Currently Amended) A computer program embodied on a computer-readable medium for controlling opening of a throttle valve installed at an air intake system of an internal combustion engine mounted on a vehicle, comprising the steps of:

detecting opening of the throttle valve;

detecting operating conditions of the vehicle; and

leaning-controlling a fully-closed value of the opening of the throttle valve based on the detected opening of the throttle valve to update the learned fully-closed value, when operating state of the vehicle is under a prescribed operating state;

wherein the step of learning-controlling updates the learned fully-closed value in a valve closing direction by a first prescribed amount when the detected throttle opening is smaller than the learned fully closed value, while updating the learned fully-closed value in the valve opening direction by a prescribed second amount which is smaller than the first prescribed amount when the detected throttle opening is greater than the learned fully-closed value.